

(b) exposing the array to one or more materials which contain an at least one target sample that causes a molecular interaction event with one or more of the deposition samples; and

(c) scanning the array utilizing a scanning probe microscope to characterize the molecular interaction events that have occurred between the target samples and the deposition material.

95. An array for the identification of a target material comprising:

a silicon substrate including a substantially flat surface; and

an at least one deposition domain deposited on said surface, said deposition domain being smaller than one micron in total area and deposited at a [known location] pre-selected location on the surface, the deposition domain including a long chain biomolecular deposition material having the capacity to bind the target material.

96. A molecular array for characterizing molecular interaction events, comprising:

(a) a substrate; and

(b) at least one molecular discrete deposition domain on said substrate wherein the spatial address of the domain is less than one micron in area, each domain includes a biologically or chemically based molecule directly deposited on the substrate at a [known location] pre-selected location, and wherein the molecular deposition domain created by a molecular deposition probe having at least one microsphere attached thereto.

97. A molecular array for characterizing molecular interaction events, comprising:

(a) a substrate made of mica; and

(b) at least one discrete and addressable molecular deposition domain on said substrate wherein the spatial address of the domain is less than one micron in area, each domain includes a biologically or chemically based molecule directly deposited on the substrate at a [known location] pre-selected location, at least two domains containing different biologically or chemically based molecules, and wherein the molecular deposition domain interacts with a molecular deposition probe having at least one microsphere attached thereto.

98. A molecular array for characterizing molecular interaction events, comprising:

(a) a substrate; and

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(b) at least one discrete molecular deposition domain on said substrate wherein the spatial address of the domain is less than one micron in area and each domain includes a biologically or chemically based molecule [directly] deposited on the substrate at a pre-selected location, at least two domains containing different biologically or chemically based molecules.

Referring the Examiner to the specification at page 14, Applicant has defined the deposition material deposited in the deposition domain to be defined by the boundary "of the material placed therein." New claims 93, 96, 97, and 98 proposed above clearly point out and claim a limitation that requires the domains to have discrete physical separation from one another.

Furthermore, on page 24 the specification states that because "the fine control of the deposition device 40 that may be possible with the AFM instrumentation, the exact surface spot in which the deposition takes place may be noted." New claims 95-98 include a limitation that requires the placement of the domains in the array to a product of pre-selecting a specific point whereon to create the domain. Selecting the point whereon to place the domain is not taught by Dontha, which relies on random placement of each domain followed by a later detection of the location of the domain.

Finally, on page 25 the specification states that "the probe may be reloaded with a second deposition material 56 after one or more molecular domains are created with the first deposition material 56." Proposed claims 93, 97, and 98 each contain a limitation wherein the array includes domains that contain different deposition materials. Dontha fails to teach or suggest that a second deposition material could be used to prepare a second domain.

Respectfully submitted,

Date:

4/10/02

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